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## ARTICLE

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## vitamin A

a fat-soluble alcohol, most abundant in fish and especially in fish-liver oils. **Vitamin A** is also found in butter and in the liver fat of various animals. **Vitamin A** is not present in plants, but many vegetables and fruits contain one or more of a class of pigments that can be converted to **vitamin A** in the body; of these pigments,  $\beta$ -carotene (**provitamin A**) is an excellent source of the **vitamin**. The colour of carrots largely results from their  $\beta$ -carotene content.

**Vitamin A** is readily destroyed upon exposure to heat, light, or air. The **vitamin**, which functions directly in vision, is a component of a pigment, called visual purple, present in the retina of the eye.

Several closely related compounds with the effects of **vitamin A** are found in animal fats. Freshwater-fish oils, for example, contain, in addition to **vitamin A**, **vitamin A<sub>2</sub>**, which differs from the former by having two fewer hydrogen atoms. **Vitamin A<sub>2</sub>** can also form a visual pigment.

**Vitamin A** is required by humans in very small amounts; the recommended dietary allowance for adults is 1.0 mg. This can be provided by 6 mg of  $\beta$ -carotene.

The existence of **vitamin A** was first clearly recognized in 1913; its chemical nature was established in 1933; and it was first synthesized in 1947.

## INTERNET LINKS

Search for related Internet links that use the term "vitamin A".

## INDEX ENTRY

Information about this topic in other articles

### vitamin A (chem. compound)

- applications in animal feed

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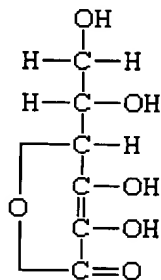
## ARTICLE

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## vitamin C

also called ASCORBIC ACID, water-soluble, carbohydrate-like substance that is involved in certain of the metabolic processes of animals. Although most animals can synthesize **vitamin C**, it is necessary in the diet of some, including humans and other primates and guinea pigs, in order to prevent scurvy, a disease characterized by debility, blood changes, spongy gums, and hemorrhages in the tissues of the body. First isolated in 1928, **vitamin C** was identified as the curative agent for scurvy in 1932. It has since been the object of continued active laboratory research.

Definitive knowledge of the details of its action is surprisingly scant, even though the **vitamin** is known to be essential in a variety of metabolic functions, including synthesis of collagen (a protein important in the formation of healthy skin, tendons, bones, and supportive tissues and in wound healing); maintenance of the structural strength of the blood vessels; metabolism of certain amino acids; and the synthesis or release of hormones in the adrenal glands. It has also been suggested that **vitamin C** plays a part in protecting the body against infection, though scientific data do not clearly support this claim.



Vitamin C

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## RELATED TOPICS

more general  
- vitamin

Relatively large amounts of **vitamin C** are required--e.g., an adult man is said to need about 70 mg per day. Citrus fruits and fresh vegetables are the best dietary sources of the **vitamin**.

Because **vitamin C** is easily destroyed by reactions with oxygen, especially in neutral or alkaline solution or at elevated temperatures, it is difficult to preserve in foods. The **vitamin** is added to certain fruits to prevent browning.

#### INTERNET LINKS

Search for related Internet links that use the term "vitamin C".

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## ARTICLE

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## vitamin E

a fat-soluble compound (tocopherol) found principally in certain plant oils and the leaves of green vegetables.

Wheat-germ oil is a particularly rich source. **Vitamin E**, first recognized in 1922, was first obtained in a pure form in 1936; it was identified chemically in 1938. A number of similar compounds having **vitamin E** activity and called tocopherols have been isolated.

**Vitamin E** acts as an inhibitor of oxidation processes in body tissues. It protects unsaturated fats in the body from oxidation by peroxides and other free radicals. The possibility that **vitamin E** may help prolong an active life-span by slowing the rate of oxidative destruction of biological membranes is under study. The tocopherols are used commercially as antioxidants to retard the rancidification of fats, especially vegetable oils.

For the effects of depriving animals of this **vitamin**, see **vitamin E** deficiency.

## INTERNET LINKS

Search for related Internet links that use the term "vitamin E".

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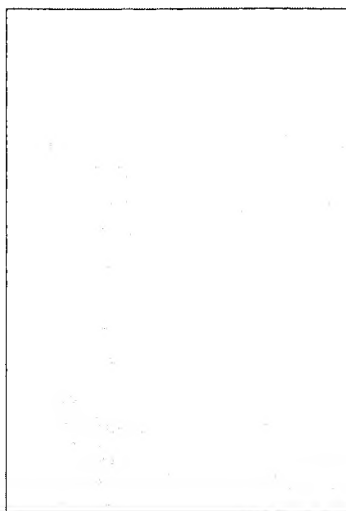
more general

- vitamin

also related

- vitamin E deficiency

- digestion
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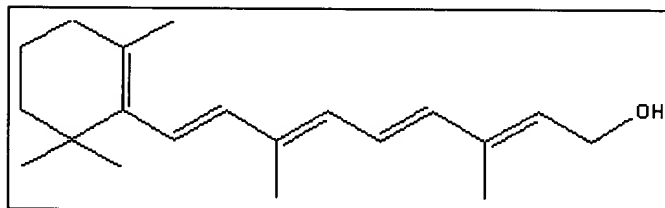
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## Retinol [68-26-8]

**Synonyms:** Vitamin A; ACON; afaxin; agiolan; Alphalin; alphasterol; anatola; anatola a; anti-infective vitamin; antixerophthalmic vitamin; Aoral; apexol; aquasynth; Atars; ATAV; avibon; Avita; avitol; axerophthol; biosterol; chocola a; 3,7-dimethyl-9-(2,6,6-trimethyl-1-cyclohexen-1-yl)-2,4,6,8-nonatetraen-1-ol; disatabs tabs; dofsol; epiteliol; hi-a-vita; lard factor; 2,4,6,8-nonatetraen-1-ol, 3,7-dimethyl-9-(2,6,6-trimethyl-1-cyclohexen-1-yl)-, (all-E)-; oleovitamin a; ophthalamin; prepalin; all-trans-retinol; retrovitamin a; testavol; vaflo; Vafol; VI-alpha; Vitamin A1; Vitamin A alcohol; Vitamin A1 alcohol; all-trans-vitamin a alcohol; vitavel a; vitpex; Vogan; vogan-neu; trans-retinol; all-trans-retinyl alcohol; apostavit; axerol; dohyfral a; nio-a-let;

 $C_{20}H_{30}O$ 

286.4564


[View with ChemDraw Plugin](#)[Save in CDX format](#)[BUY AT CHEMACX.COM](#)[VIEW CHEM3D MODEL](#)[Add Compound](#)[Add or Change Property](#)[Add Link](#)[Feedback](#)**ACX Number** X1009884-3**Melting Point (°C)** 62 - 64**Boiling Point (°C)** 137 - 138**Refractive Index****Evaporation Rate****Flash Point (°C)****DOT Number****Comments** Yellow crystals. LIGHT/AIR SENSITIVE.**CAS RN** 68-26-8**Density****Vapor Density****Vapor Pressure****Water Solubility****EPA Code****RTECS** VH6750000**More information about the chemical is available in these categories:**

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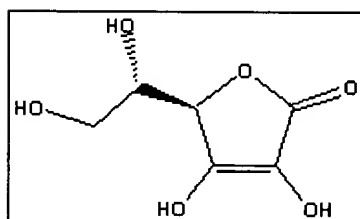
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## Vitamin C [50-81-7]

**Synonyms:** L-ascorbic acid; L-3-ketothreohexuronic acid; Ascorbicap; Cebid; Cecon; Cevalin; Cemill; Sunkist; L-(+)-Ascorbic Acid; Acid Ascorbic; antiscorbic vitamin; antiscorbic vitamin; cevitic acid; 3-keto-L-gulofuranolactone; L-3-ketothreohexuronic acid lactone; laroscorbine; L-lyxoascorbic acid; 3-oxo-L-gulofuranolactone; L-xyloascorbic acid; adenex; allercorb; cantan; proscorbin; vitacin; AA; arco-cee; ascoltin; ascorb; ascorbajen; ascorbicab; ascor-b.i.d.; ascorbutina; ascorin; ascortel; ascorvit; cantaxin; catavin c; cebicure; cebion; cee-caps td; cee-vite; cegiolan; ceglion; celaskon; ce lent; Celin; cemagyl; ce-mi-lin; cenetone; cereon; cergona; cescorbat; cetamid; cetemican; cevatine; Cevex; cevibid; cevimin; ce-vi-sol; cevital; cevitamin; cevitan; cevitec; Cewin; ciamin; Cipca; citrisorb; c-level; C-Long; colascor; concemin; C-Quin; C-Span; c-vimin; dora-c-500; davitamon c; duosorb; L-threo-hex-2-enonic acid, gamma-lactone; Hicee; hybrin; IDO-C; lemasorb; liqui-cee; Meri-c; natrasorb injectable; 3-oxo-L-gulofuranolactone (enol form); planavit c; redoxon; ribena; roscorbic; scorbacid; scorbu-c; secorbate; testascorbic; vicelat; Vicin; vicomin c; viforcit; viscorin; vitace; vitacee; vitacimin; vitamisin; vitascorbol; Xitix; Ascorbic Acid;

$$\text{C}_6\text{H}_8\text{O}_6$$

176.1256

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<b>ACX Number</b>	X1001259-8	<b>CAS RN</b>	50-81-7
<b>Melting Point (°C)</b>	190 - 192	<b>Density</b>	1.7
<b>Boiling Point (°C)</b>		<b>Vapor Density</b>	
<b>Refractive Index</b>		<b>Vapor Pressure</b>	
<b>Evaporation Rate</b>		<b>Water Solubility</b>	>=10 g/100 mL at 23 C
<b>Flash Point (°C)</b>		<b>EPA Code</b>	
<b>DOT Number</b>		<b>RTECS</b>	CI7650000
<b>Comments</b>	Reichstein, HCA, 1934, 17, 311. Colorless crystals or white or very pale yellow crystalline powder. LIGHT/AIR SENSITIVE.		

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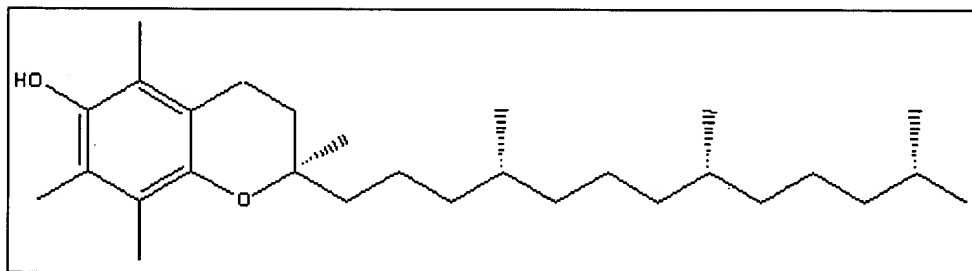
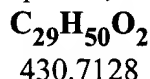
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## Vitamin E [59-02-9]

**Synonyms:** Aquasol E; Eprolin; E-vitamin succinate; Pheryl-E; Vita plus E; Alpha-Tocopherol; D-alpha-tocopherol; 2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-, [2R-[2R\*(4R\*,8R\*)]]-; 5,7,8-trimethyltolcol; antisterility vitamin; eprolin-s; epsilon; ephynal; syntopherol; E-vimin; etavit; phytofermine; profecundin; tokopharm; viteolin; Esorb; vasculals; covirel; Evion;

[View with ChemDraw Plugin](#)  
[Save in CDX format](#)[BUY AT CHEMACX.COM](#)[VIEW CHEM3D MODEL](#)[Add Compound](#)[Add or Change Property](#)[Add Link](#)[Feedback](#)**ACX Number** X1001317-5**Melting Point (°C)** 2.5 - 3.5**Boiling Point (°C)** 350**Refractive Index****Evaporation Rate****Flash Point (°C)****DOT Number****Comments**

Scott, HCA, 1976, 59, 290. Pale yellow, viscous liquid. AIR SENSITIVE; LIGHT SENSITIVE.

**CAS RN** 59-02-9**Density** 0.95**Vapor Density****Vapor Pressure****Water Solubility** Insoluble**EPA Code****RTECS** DJ2900000**More information about the chemical is available in these categories:**[Biochemistry](#)[Chemical Online Order](#)[Health](#)[Medications](#)[Misc](#)[Regulations](#)[Trading](#)


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